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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,188	07/12/2001	Frank Werfel	87333.1900	1224

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EXAMINER

AGUIRRECHEA, JAYDI A

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,188

Applicant(s)

WERFEL ET AL.

Examiner

Jaydi A. Aguirrechea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2-5, 7-10, 18-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Klein et al. (US ~~5227066~~). **3,747,998**

Klein's discloses a rotor assembly (1, 2, 4, and 17) rotatable about a rotor axis (2) the rotor assembly being configured to hold materials for separation (1);

a first super conducting magnetic bearing (6) comprising: a first permanent magnet configuration (20) coupled with the rotor (4) assembly so as to rotate concurrently with the rotor assembly; and a passive first super conducting magnet stator (21) being spaced apart from the first permanent magnetic configuration and the rotor assembly, the first super conducting magnet stator and first permanent magnet configuration being sufficiently close together to produce a magnetic field interaction there between (column 8, lines 8-32 and column 5, lines 16-35); and

a motor (3) coupled with the rotor assembly for selectively rotating the rotor assembly, wherein the first permanent magnet configuration comprises an integrated lower part of the rotor cup (Figure 1).

3. With regards to claim 2, the field lines disclosed by Klein penetrate approximately perpendicular into at least one surface of the magnet stator.

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4. With regards to claim 3, the rotor disclosed by Klein is positioned 90° relative to a horizontal plane as shown in figure 1.
5. With regards to claim 4 and 5, Klein discloses permanent magnet rings (20, 21) where the stator surrounds the first permanent magnet configuration.
6. With regards to claim 7, Klein discloses the rotor being mounted on the shaft and the stator encircling the shaft.
7. With regards to claim 8, Klein discloses the claimed arrangement where the permanent magnets are located inside the cylindrical housing.
8. With regards to claim 9, Klein discloses the plurality of permanent magnets and collector rings (17) disposed between the magnets.
9. With regards to claim 10, Klein discloses the first permanent magnet configuration comprising a first permanent magnet concentrically disposed within a second permanent magnet.
10. With regards to claim 18, Klein discloses the magnet stator having the geometry of a ring.
11. With regards to claim 19, Klein discloses the ring shaped permanent magnets being mounted coaxially about the rotor axis.
12. With regards to claim 20, Klein discloses axial magnetized rings stacked axially with adjacent equal polarities.
13. With regards to claim 21, Klein discloses a plurality of permanent magnets mounted one in another in a plane whereby the rings are radially adjacent (figure 1).
14. With regards to claim 22, Klein discloses the claimed invention where the neighboring rings show equal or alternating axial magnetization.

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15. With regards to claim 24, Klein discloses the permanent magnet configuration comprising a single ring.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 6, 11-17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein (US 3747998).

18. With regards to claim 6, Klein discloses the claimed invention except for the stator being surrounded by the rotor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange the stator and rotor, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

19. With regards to claims 15 and 16, Klein's discloses the claimed invention; however, it fails to disclose the material the magnet stator is made of. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the stator using a melt textured multi grain material since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

20. With regards to claim 17 and 25, Klein's discloses the centrifuge comprising only one magnetic bearing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use two magnetic bearings since it has been held that mere duplication

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of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 PSQ 8.

21. Claim 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein in view of Barnes (US 4926082).

With regards to claim 11, Klein's discloses the claimed invention except for the cryogenic unit connected to the magnet stator. Barnes teaches the use of a cryogenic unit for the purpose of cooling the stator and improving the efficiency the bearing support (abstract). It would have been obvious to one skilled in the art at the time the invention was made to use the cryogenic unit disclosed by Barnes on the centrifuge disclosed by Klein for the purpose of improving the efficiency of the bearing support.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 703-305-2277. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JAA
9/2/03

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DANGLE
PRIMARY EXAMINER